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Dobrovol'skiy, S. I., Gubkin, S. I. and Yuskov, A. V.

"Exploration of the Causes of Stratification of Metal (in Plane of the Flash Gutter) During Closed-Die Forging", pp 16-20, Akademiya Nauk B.S.S.R., Sbornik Nauchnykh Trudov, Vol 2, Minsk, 1955, 250 pp.

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

DOBROVOL'SKIY, S.I.

GUBKIN, S.I.; YUSHKOV, A.V.; DOBROVOL'SKIY, S.I.

Clarifying the causes of metal exfoliation (in the area of bridge projections) in volume die forging. Sbor.nauch.trud. Fiz.-tekh.inst. AN USSR no.2:16-22 '55. (MLRA 10:1)
(Strains and stresses) (Forging)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

Dobrovol'skiy, S. I.

Call Nr: TA 406.G83

AUTHORS: Gubkin, S.I. (deceased), Dobrovol'skiy, S.I., Boyko, B. B.

TITLE: Photoplasticity (fotoplastichnost')

PUB. DATA: Izdatel'stvo Akademii nauk Belorusskoy SSR, Minsk, 1957, 164 pp. 4,000 copies

ORIG. AGENCY: Akademiya nauk USSR. Fiziko-Tekhnicheskiy Institut

EDITOR: Gorev, K.V. Academician, Academy ofSciences, BSSR; Ed. of Publ. House: Kholyavskiy, S.; Tech.Ed.: Aleksandrovich, Kh.

PURPOSE: This monograph is intended for engineers and scientific workers familiar with the methods of photoelasticity.

COVERAGE: The monograph describes the fundamentals of a new experimental method for investigation of plastic deformation processes and states of stress. This consists of passing polarized light through optically sensitive materials which are subjected to residual deformation. This method is called photoplasticity by its authors.

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Photoplasticity (fotoplastichnost') (cont) Call Nr: TA 406.G83

The results of this work may be applied to modeling (i.e., model testing, etc.) various plastic deformation processes. The origin of the present volume is described in the foreword as follows: "One of the co-authors of this monograph, S.I. Gubkin, organized a laboratory in 1949 at the Physico-Technical Institute of the Belorussian Academy of Sciences to develop the photoplasticity method. Initial investigations in this laboratory were conducted by S.I. Gubkin and S.I. Dobrovol'skiy. Some results of these investigations were published in Doklady AN SSR in 1950 and 1953. B.B. Boyko joined the laboratory in 1952. By the end of 1954 the investigations carried out by the laboratory provided a preliminary solution to one of the basic problems of photoplasticity, namely, determination of the stress condition using the method of photoplasticity under conditions of a viscous flow. With the solution of this problem which revealed the basic characteristics of the method, We can now consider photoplasticity acceptable as an independent method of research. In order to accelerate the refinement and introduce this useful method, the Scientific Council of the Physico-Technical Institute of the Belorussian Academy of Sciences recommended that the laboratory publish a pertinent monograph. This volume generalizes

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Photoplasticity (cont) Call Nr: TA 406.G83

the results of these investigations as carried out at the Physico-Technical Institute of the Belorussian Academy of Science under the supervision and with the participation of Academician S.I. Gubkin. The task of preparing the monograph for publication was apportioned as follows: S.I. Gubkin drew up the plan and prepared the first and sixth chapters for printing and also did the general editing; B.B. Boyko prepared the fourth chapter for printing and also the second paragraph of the fifth chapter; S.I. Dobrovol'skiy prepared the second and third chapters and the first and third paragraphs of the fifth chapter." All problems of modeling plastic deformation processes where the photoplasticity method is used can be subdivided into two groups:

1) Analysis of stress distribution in plastically deformed bodies, and
2) Study of physical phenomena during plastic flow (such as the mechanics of flow and destruction, the nature of residual stresses, the nature of material fatigue, relaxation, creep, elastic after-effects, contact friction, etc.)

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Photoplasticity (cont) Call Nr: TA 406.G83

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SOV/137-58-7-16087D

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 7, p 307 (USSR)

AUTHOR: Dobrovol'skiy, S. I.

TITLE: Clarification of the Possibilities of the Study of Stresses Resulting from Plastic Deformation by Means of Irradiation of Transparent Models with Polarized Light (Vyyasneniye vozmozhnosti izucheniya napryazheniy pri plasticheskoy deformatsii putem prosvechivaniya prozrachnykh modeley polyarizovannym svetom)

ABSTRACT: Bibliographic entry on the author's dissertation for the degree of Candidate of Technical Sciences, presented to the In-t metallurgii, Academy of Sciences, USSR), Minsk, 1957

ASSOCIATION: In-t metallurgii AN SSSR (Institute of Metallurgy, Academy of Sciences, USSR), Minsk

1. Stress anslysis 2. Materials--Deformation 3. Polarographic analysis

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DOBROVOL'SKIY, S.I.

Preparation of fine-grained silver chloride. Sbor.nauch.trud. Fiz.-tekh.inst. AN BSSR no.4:241-247 '58. (MIRA 11:11)
(Silver chloride--Metallography)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

DoBrovol'skiy, S.I.

PHASE I BOOK EXPLOITATION SOV/4018

Akademiya nauk Belorusskoy SSR. Fiziko-tekhnicheskiy institut

Sbornik nauchnykh trudov, vyp. 5 (Collected Scientific Papers of the Institute of Engineering Physics, Academy of Sciences Belorusskaya SSR, No. 5) Minsk, Izd-vo AN BSSR, 1959. 215 p. Errata slip inserted. 1,100 copies printed.

Ed. of Publishing House: L. Marina; Tech. Ed.: I. Volokhanovich; Editorial Board: V.P. Severenko, Academician, Academy of Sciences BSSR (Chief Ed.), K.V. Gorev, Academician, Academy of Sciences BSSR, M.N. Bodyako, Candidate of Technical Sciences, and F.A. Pavlovskiy, Candidate of Technical Sciences.

PURPOSE: This book is intended for technical personnel and scientific workers.

COVERAGE: This collection of 23 articles covers the following subjects: small draft rolling analysis of wire-drawing; friction of drop-forging dies, impact upsetting, examination of the effect of temperature on plastic deformation, sulphidation and carburizing processes, the phenomena of pulse-discharge, etc. Recommendations for Forging Bodies and Design Elements of Small-Flash Dies

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

S/058/61/000/010/058/100
A001/A101

AUTHOR: Dobrovol'skiy, S.I.

TITLE: Some characteristics of optically sensitive materials suitable for solving the viscous problem of photoplasticity

PERIODICAL: Referativnyy zhurnal, Fizika, no. 10, 1961, 194, abstract 10G174 ("Sb. nauchn. tr. Belorussk. in-ta mekhaniz. s. kh.", 1959 (1960), no. 2, 221 - 229)

TEXT: A number of materials are described which are suitable for solving the viscous problem of photoplasticity; their rheological behavior corresponds to behavior of a viscous body. Best properties are possessed by the alloy of colophony with rosin oil in proportion 4:1, the alloy of colophony with dioxide of butadiene hydrocarbon $C_{20}H_{22}O_2$ in proportion 1:2, the alloy of abietic acid with rosin oil in proportion 3:1, etc. A dependence of strain rates of these materials on shearing stresses at various temperatures has been investigated. Example photographs of isochromatic patterns during strains are presented.

[Abstracter's note: Complete translation] V. Sintsov

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S/058/61/000/009/016/050
A001/A101

AUTHOR: Dobrovol'skiy, S.I.

TITLE: Determination of value of band of optically sensitive materials

PERIODICAL: Referativnyy zhurnal, Fizika, no. 9, 1961, 131, abstract 9G24 ("Sb. nauchn. tr. Belorussk. in-t mekhaniz. s. kh.", 1960, no. 4, 270-273)

TEXT: The author proposes a simplified method of determining optical sensitivity (measured by value of band) of materials used in the method of photoelasticity; the method makes use of the pattern of bands and isoclines at a known load and dimensions of the model. It is shown how to calculate the value of band of material at points of a definite selected cross section, at which the values of order of bands and parameters of isoclines are determined.

[Abstracter's note: Complete translation]

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DOBROVOL'SKIY, S.M.

Emulsion lubricant for molds. Bet. i zhel.-bet. no.11:526-527 N '60. (MIRA 13:11)

(Lubrication and lubricants)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

DROZDOV, V.Ye.; ZAKHAROVA, I.M.; DOBROVOL'SKIY, S.P.

Field of dose rates from an irradiator with a gamma-ray source consisting of spent fuel rods. Atom. energ. 19 no.4:367-371 O '65. (MIRA 18:11)

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3731

SPATIAL DISTRIBUTION OF THE PARTICLES OF EXTENSIVE AIR SHOWERS PRODUCED BY PRIMARY COSMIC RAYS OF VARIOUS ENERGIES. S. P. Dobrovol'skii, N. I. Nikol'skii, E. I. Tukish, and V. I. Iakovlev (Academy of Sciences, USSR). Soviet Phys JETP 4, 799-801 (1957) July.

The spatial distribution of charged particles in the central region of extensive air showers produced by primary cosmic ray particles of various energies was experimentally investigated. It has been found that, within the limits of experimental error, the spatial distribution is independent of the energy of the primary particle producing the shower in the energy region of 10^{13} to 6×10^{15} ev. (auth)

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~~DOBROVOL'SKIY, S.P.~~ DOBROVOL'SKIY, S.P.

SUBJECT USSR / PHYSICS CARD 1 / 2 PA - 1846
AUTHOR DOBROVOL'SKIJ,S.P., NIKOL'SKIJ,S.I., TUKIŠ,E.I., JAKOVLEV,V.I.
TITLE The Spatial Distribution of Broad Atmospheric Showers which are caused by Primary Cosmic Radiation with Different Energies.
PERIODICAL Žurn.eksp.i teor.fis,31, fasc.6, 939-942 (1956)
Issued: 1 / 1957

In the summer of 1954 the authors carried out experiments for the broadening of the energy interval of the broad atmospheric showers under investigation. The spatial distribution of particles was investigated at an altitude of 3860 m above sea level in showers with a primary energy of less than 6.10^{13} and more than 10^{15} eV. In order to be able to measure the great densities of the flows of particles with accuracy, groups of hodoscopic counters with a surface of 16 cm^2 each were used. The average spatial distribution of particles in showers with $1,2.10^6$ particles is illustrated by a diagram. Difficulties arise when investigating showers with less than 10^4 particles because of the low number of particles. On the occasion of the passage of the showers investigated by the authors through the experimental system, discharges occurred in from 4 to 7 of 456 counters. The position of the axis in such showers was determined by means of a group of hodoscopic counters. In all showers investigated the ratio (total number of counters / number of counters recording the passage of a shower particle) was determined at given distances from the axis. The spatial distribution of the particles thus obtained is illustrated in form

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Zurn.eksp.i teor.fis,31,fasc.6, 939-942 (1956) CARD 2 / 2 PA - 1846

of a diagram. The experimental results obtained by JU.N.VAVILOV et al. (Dokl. Akad.Nauk, 93, 233 (1953)) agree well with the results obtained by this work. A further diagram illustrates the normalized spatial distribution of the particles in showers, which had been produced by primary particles with different energies. The expected modification of the shape of the function of the spatial distribution of the shower particles was not confirmed by experiment.

The experimental results obtained can be explained as follows: An abnormal high-energy nuclear-active particle present in the stem of the broad atmospheric shower with the primary energy of $< 10^{15}$ eV produces the electron-photon component with high energy in the depth of the atmosphere. This conclusion can be illustrated by comparison of the results obtained here on spatial distribution with the angular distribution of particles on the occasion of nucleon-nucleon interaction observed in photographic emulsions. The major part of the energy liberated on the occasion of primary interaction is carried off by the particles at an angle of $\sim 10^{-4}$ stearad.

INSTITUTION: Physical Institute "P.N.LEBEDEV" of the Academy of Science in the USSR.

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S/169/62/000/012/092/095
D228/D307

3.5170

AUTHOR: Dobrovol'skiy, S.P.

TITLE: Nature of noctilucent clouds

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 12, 1962, 27, abstract 12G185 (Tsirkulyar Vses. astron.-geod. o-va, no. 5, 1962, 31-34)

TEXT: When examining the meteoric and the condensation hypotheses for the origin of noctilucent clouds, the author suggests that H_2O particles may be supplied to a height of 80-90 km by cosmic bodies.

[Abstracter's note: Complete translation]

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

ACCESSION NR: AP4026378 S/0026/64/000/003/0087/0089

AUTHOR: Dobrovol'skiy, S. P. (Tbilisi)

TITLE: The nature of noctilucent clouds

SOURCE: Priroda, no. 3, 1964, 87-89

TOPIC TAGS: cloud, noctilucent, noctilucent cloud, cloud physics, condensation, meteor, meteorite, cosmic water, water vapor

ABSTRACT: In general, this is an inquiry into the formation of clouds at a height of 80-90 km -- the so-called noctilucent clouds. In particular, two major hypotheses on the nature of these clouds are considered and criticized: 1) the condensation hypothesis of Prof. I. A. Khvostikov, according to which they are formed by the condensation of water vapor carried by rising streams of air from the troposphere to the upper layers of the atmosphere as the result of vertical mixing; and 2) the meteor hypothesis, best elaborated by the German scientist K. Hoffmeister, according to which they consist of mineral particles of silicate composition of meteoric origin. The author adduces considerations in favor of a "meteor-condensation hypothesis," according to which noctilucent clouds consist,

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in the main, of condensation products of cosmic water, carried by water-containing or icy meteoric bodies into the upper layers of the atmosphere. Whereas there is no place in the meteor theory for the physical conditions in the mesopause (the only place where noctilucent clouds occur), and the basic argument for the condensation theory is the existence of a low temperature minimum in the mesopause, the "meteor-condensation" theory finds the mesopause doubly remarkable as the atmospheric layer where conditions are favorable for condensation and where the extinction of most meteorites occurs. Orig. art. has 1 photograph.

ASSOCIATION: none

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L 28030-66 EWT(m)/ETC(f)/EPF(n)-2/EWG(m) WW

ACC NR: AP5026443 SOURCE CODE: UR/0089/65/019/004/0367/0371

AUTHOR: Drozdov, V. Ye.; Zakharova, I. M.; Dobrovol'skiy, S. P.

ORG: None

TITLE: Investigation of the gamma dose rate distribution field in an irradiator composed of used reactor fuel rods

SOURCE: Atomnaya energiya, v. 19, no. 4, 1965, 367-371

TOPIC TAGS: nuclear reactor, irradiation apparatus

ABSTRACT: The used or spent fuel rods from the RFT-nuclear reactor were employed for the experimental determination of the radioactivity distribution along their length. A standard TISS-dosimeter and an end-window SBT-9 counter were used for measuring gamma radiations from various rod points. The results of measurements were illustrated by a curve showing the greatest radiation of 4200 pulses per minute in the middle of the rod. The distribution field of dose rates was theoretically determined for a rod considered similar to a linear source with a cosine distribution of radioactivity. A formula was deduced and curves were plotted showing a good coincidence of experimental data with the cosine-distribution curve. The same comparison with a curve calculated on the basis of uniform distribution showed a considerable discrepancy. The authors

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also made experimental and theoretical investigations for irradiating arrangements composed of one old spent rod and then of 18 rods taken from the RFT-reactor. These 18 rods formed a hollow cylinder with a diameter of 90 cm and 102 cm high. The cosine-type distribution field was calculated, the formulas were derived and the distribution curves were plotted. The analysis of the curves showed that experimental results were in good agreement with the theoretical calculations. It was proven too that the distribution changed very little with time. The authors thank Yu. S. Ryabukhina (for assistance and useful advices), A. G. Vasil'yeva and V. P. Trusova (for dosimetry) and M. Ye. Yeroshova (for assistance in conducting experiments). Orig. art. has: 2 diagrams, 4 graphs, and 7 formulas.

SUB CODE: 18/ SUBM DATE: 17Nov64 / ORIG REF: 006 / OTH REF: 004

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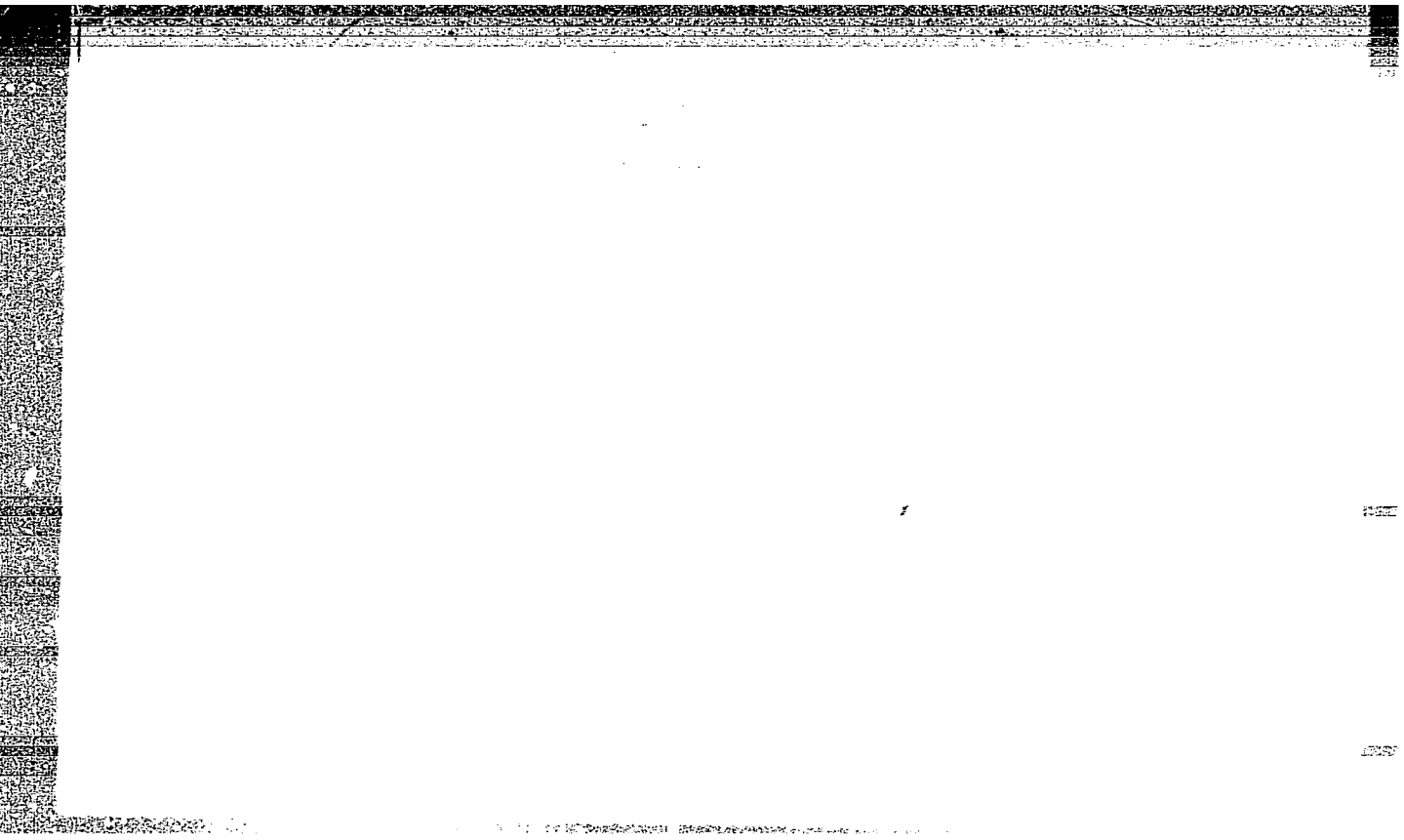

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

AUTHORS: Dobrovol'skiy, S. V., Polotnyuk, V. Ya. 79-12-5/43

TITLE: The Reaction of Mono-Ethers on Aniline and Ammonia (Vzaimodeystviye prostykh efirov s anilinom i ammiakom). II. The Reaction of Anisol on Aniline (II. Vzaimodeystviye anizola s anilinom).

PERIODICAL: Zhurnal Obshchey Khimii, 1957, Vol. 27, Nr 12, pp. 3196-3201 (USSR)

ABSTRACT: The reaction of the mixed mono-ethers on amines was hitherto not investigated. In the present work the results of the investigation are reported, which were collected on the occasion of the interaction of the vapors of aniline and anisol above an aluminium-silicate catalyst and activated aluminium-oxide. As far as in literature no data exist about the character of the interaction between aniline and anisol, a previous thermodynamic computation of the equilibrium constants of some reactions was carried out, in order to approach the clearing up of the reaction process. At 200-350°C above the catalysts mentioned in the anisol molecule a crack of the CH_3-O-binding takes place, which is accompanied by an alkylation process. The binding C_6H_5-O remains existing under the same conditions, so that aniline will not be arylated. The character of the alkylation process depends on the nature of the catalyst. Above

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the activated aluminium-oxide the aniline in the amino group and the phenol in the nucleus are alkylated. Above the synthetic aluminium silicate, apart from the above-mentioned processes, the alkylation process takes place in the nucleus. The dealkylation of methyl-aniline and of dimethyl-aniline with phenol was carried out for the first time in the gaseous phase. The reaction schemes demonstrating the reaction between anisol and aniline, as well as the results of the thermodynamic computation of the reactions between two compounds are mentioned. There are 2 figures, 3 tables, and 7 references, 4 of which are Slavic.

ASSOCIATION: Scientific Research Institute for Organic Intermediate Products and Dyes (Nauchno-issledovatel'skiy institut organicheskikh poluproduktov i krasiteley).

SUBMITTED: December 8, 1956

AVAILABLE: Library of Congress

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1. Mono-ethers-Chemical reactions 2. Amines-Chemical reactions 2. Anisol-Chemical reactions 4. Aniline-Chemical reactions 5. Activated aluminum oxide catalyst-Applications 6. Synthetic aluminum silicate catalyst-Applications

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5(1)

AUTHORS: Dobrovol'skiy, S. V., Gofmeyster, K. K., Lamekhov, P. N. SOV/64-58-8-2/19

TITLE: The Production of Phthalonitrile From Phthalic Anhydride and Ammonia (Polucheniye ftalonitrila iz ftalevogo angidrida i ammiaka)

PERIODICAL: Khimicheskaya promyshlennost', 1958, Nr 8, pp 458 - 463 (USSR)

ABSTRACT: In recent times, the importance of phthalonitrile (I) has increased, as it represents a stage in the production of high quality phthalocyanine dye (Ref 1) and is also used as a stabilizer for aircraft oils and as an insecticide (Ref 2). Since the method of synthesis now considered most advantageous, namely the synthesis from phthalic anhydride (II) and ammonia (III), is still insufficiently developed, studies for the selection of the catalyst, optimum conditions, and the design of the apparatus were carried out. Catalysts with different acidities were tested; an aluminum silicate catalyst which can be produced by the aluminate method proved most effective.

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An examination of the chemisms of the reaction made it possible to calculate the equilibrium constants between 300 and 400° (Table). The effects of the molar ratio of components (Fig 3) as well as the pressure (Fig 5) on the phthalonitrile yield were examined at various temperatures. The temperature range of 420 - 460° at a molar ratio (III):(II) ≅ 100 was found to be most advantageous. Optimum contact time was 0.15 secs, i.e. about 300 g (II) per 1 liter catalyst per hour. Technologists M. Ya. Gishpling and M. M. Yakubson helped to transfer the process to a test apparatus. The water-cooled condensation chambers used in the Ludwigshafen I. G. plant (Ref 5) proved inadequate. (I) was separated by cooling the gases with liquid ammonia (Ref 10). Gases were returned by means of an absorption-type refrigerating machine (Ref 11). With the new technological process 25 kg per 24 hours were obtained in the test apparatus, the yield being 93-94%. Finally, the paper contains a description of the basically new nitrilation process, which is continuous, fully mechanized and automated. There are 7 figures, 1 table, and 11 references, 3 of which

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5(4)

AUTHORS: Dobrovol'skiy, S. V., Polotnyuk, V. Ya.

SOV/76-32-12-21/32

TITLE: On the Kinetics of Reaction Series in a Recirculating Flow System (O kinetike posledovatel'nykh reaktsiy v protochno-tsirkulyatsionnoy sisteme)

PERIODICAL: Zhurnal fizicheskoy khimii, 1958, Vol 32, Nr 12, pp 2792 - 2796 (USSR)

ABSTRACT: This is a mathematical study of the kinetics of homogeneous and heterogeneous mono- and bimolecular reaction series. For the simplest case of a monomolecular reaction, the quantity of the forming intermediate compound is calculated as a function of the throughput rate. The quantity of the initial compound decreases steadily, that of the intermediate compound passes through a maximum, and the quantity of the final compound increases in proportion to the throughput rate. U_o/V being Θ (U_o - volume of the gas mixture entering the reaction apparatus in l/h, V- volume of the reaction space in l), the condition for the maximum of the intermediate compound is

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$$\theta_{max} = \sqrt{k_1 k_2}$$

k_1, k_2 - velocity constants of the 2 reactions from initial compound to intermediate compound and from intermediate compound to end compound). Furthermore:

$(x-y)_{max} = 1/(1+\sqrt{K})^2$ (x - quantity of the reacting initial compound in relation to its total quantity, y - quantity of the end compound formed in relation to the total quantity of the initial compound, $K = k_2/k_1$). Similarly, heterogeneous reaction series (taking place on the surface of catalysts) and bimolecular reaction series are studied. Here, analogous formulae are found. In a simple flow system the intermediate compound content is always higher than in a circulation system. There are 22 references, 9 of which are Soviet.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

On the Kinetics of Reaction Series in a Recirculating Flow System SOV/76-32-12-21/32

ASSOCIATION: Institut organicheskikh poluproduktov i krasiteley im. K. Ye. Voroshilova, Moskva (Institute of Organic Intermediate Products and Dyes imeni K. Ye. Voroshilov, Moscow)

SUBMITTED: June 6, 1957

Card 3/3

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

DOBROVOL'SKIY, S.V.; POLOTNYUK, V.Ya.

Reaction of simple ethers with aniline and ammonia. Report No. 1: Reaction of diphenyl ether with aniline and ammonia. Org. poluprod. i kras. no.1:165-176 '59. (MIRA 14:11)
(Phenyl ether) (Aniline) (Ammonia)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

DOBROVOL'SKIY, S.V.; POLOTNYUK, V.Ya.

Reaction of simple ethers with aniline and ammonia. Report No.2: Reaction of anisole with aniline. Org. poluprod. i krasc. no.1:177-183 '59. (MIRA 14:11)
(Anisole)
(Aniline)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

SOV/79-29-2-41/71

AUTHORS: Dobrovol'skiy, S. V., Polotnyuk, V. Ya.

TITLE: Reaction of Ether With Aniline and Ammonia (Vzaimodeystviye prostykh efirov s anilinom i ammiakom). III. Alkylation of Aniline With Dimethylether (III. Alkilirovaniye anilina dimetilovym efirom)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 2, pp 545-551 (USSR)

ABSTRACT: The catalytic alkylation of aniline with ethers in the vapor phase is of considerable practical interest (Ref 1). Dimethylaniline was manufactured from aniline and dimethyl ether in the presence of active aluminum oxide (Ref 2). In the reports on the alkylation of aromatic amines with ethers primarily problems of applied chemistry were treated: for example the choice of the catalyst, selection of the most favorable conditions, etc (Refs 3-8). Yet investigations, which deal with the kinetics and mechanism of these reactions are missing. For this reason special attention was paid to the kinetics of the alkylation of aniline with dimethylether. This reaction proceeds very smoothly in the presence of active aluminum oxide between 235 and 300° without any by-processes (Refs 7-9). The preceding thermodynamic calculation of the reactions

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Reaction of Ether With Aniline and Ammonia. III. Alkylation of Aniline With Dimethylether

$$C_6H_5NH_2 + (CH_3)_2O \rightleftarrows C_6H_5NHCH_3 + CH_3OH \quad (I)$$

$$C_6H_5NHCH_3 + (CH_3)_2O \rightleftarrows C_6H_5N(CH_3)_2 + CH_3OH \quad (II)$$

indicated a favorable course of the process as far as the formation of aliphatic-aromatic amines is concerned (Table 1). The thermodynamic calculation was conducted according to the method described earlier (Ref 18) by use of the most certain thermodynamic constants (Refs 10-13). In table 1 the equilibrium constants K_p and the yields are mentioned; the latter were calculated with respect to the equimolecular mixtures. Consequently it was shown that the above-mentioned methylation of aniline by means of consecutive substitution of the hydrogen atom at nitrogen passes through the alkyl groups. An empirical equation was established for the calculation of the reaction constant. There are 6 figures, 3 tables, and 19 references, 9 of which are Soviet.

Card 2/3

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

SOV/79-29-2-41/71

Reaction of Ether With Aniline and Ammonia. III. Alkylation of Aniline With Dimethylether

ASSOCIATION: Nauchno-issledovatel'skiy institut organicheskikh poluproduktov i krasiteley (Scientific Research Institute of Organic Semiproducts and Dyes)

SUBMITTED: July 5, 1957

Card 3/3

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

DOBROVOL'SKIY, S. V.; POLOTNYUK, V. Ya.

Reaction of simple ethers with aniline and ammonia. Report No.3: Alkylation of aniline with dimethyl ether. Org. poluprod. i kras. no.184-195 '59. (MIRA 14:11)
(Alkylation)
(Methyl ether)
(Aniline)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

Dobrovol'skiy S.V.

PHASE I BOOK EXPLOITATION SOV/3921

Akademiya nauk SSSR. Institut fizicheskoy khimii

Problemy kinetiki i kataliza. [t] 10: Fizika i fiziko-khimiya kataliza (Problems of Kinetics and Catalysis. [vol.] 10: Physics and Physico-Chemistry of Catalysis) Moscow, Izd-vo AN SSSR, 1960. 461 p. Errata slip inserted. 2,600 copies printed.

Eds.: S.Z. Roginskiy, Corresponding Member of the Academy of Sciences USSR, and O.V. Krylov, Candidate of Chemistry; Ed. of Publishing House: A.L. Bankvitser; Tech. Ed.: G.A. Astaf'yeva.

PURPOSE: This collection of articles is addressed to physicists and chemists and to the community of scientists in general interested in recent research on the physics and physical chemistry of catalysis.

COVERAGE: The articles in this collection were read at the conference on the Physics and Physical Chemistry of Catalysis organized by the Otdel khimicheskikh nauk AN SSSR (Section of Chemical Sciences, Academy of Sciences USSR) and by the Academic Council on the problem of "the scientific bases for the selection of catalysts." The Conference was held at the Institut fizicheskoy khimii AN SSSR (Institute of Physical Chemistry of the AS USSR) in Moscow, March 20-23, 1958. Of the great volume of material presented at the conference, only papers not published elsewhere were included in this collection.

Card 2/5

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

BRYANOV, V.V.; DOBROVOL'SKIY, S.V.

What's new in the mechanization of processing large wall blocks made of natural stone. Stroi. mat. 6 no.9:5-7 S '60. (MIRA 13:9)

1. Zamestitel' nachal'nika Upravleniya stroitel'stva i promyshlennosti stroitel'nykh materialov Krymskogo sovnarkhoza (for Bryanov). 2. Starshiy inzhener Simferopol'skogo spetsial'nogo konstruktorkogo byuro (for Dobrovol'skiy).
(Building blocks)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

IOFFE, I.I.; DOBROVOL'SKIY, S.V.; LEVIN, Ya.S.; GRIZIK R.M.; KAMBULOVA, V.A.; KRONICH, I.G.; SOKOLOVA, Ye.V.

Similarity of reactions catalyzed by liquid and solid acids. Probl. kin. i kat. 10:294-297 '60. (MIRA 14:5)

1. Nauchno-issledovatel'skiy institut organicheskikh poluproduktov i krasiteley.

(Acids) (Naphthylamine) (Naphthol)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

DOBROVOL'SKIY, S.V.; GRIZIK, R.M.; KRONICH, I.G.; IOFFE, I.I.

Catalytic aryl amination of β-naphthol. Org. poluprod. i kras. no.2:148-150 '61. (MIRA 14:11)

(Amination) (Naphthols)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

DOBROVOL'SKIY, S.V.; POLOTNYUK, V.Ya.

Kinetics of consecutive reactions in a recycling flow system. Part 2: Consecutive monomolecular multistage reactions. Zhur. fiz. khim. 35 no.5:1054-1057 My '61. (MIRA 16:7)

1. Nauchno-issledovatel'skiy institut organicheskikh poluproduktov i krasiteley imeni Voroshilova.
(Chemical reaction, Rate of)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

ERKIKH, R.D.; DOBROVOL'SKIY, S.V.; KOROLEV, A.I.

Catalytic conversions of N,N-dialkylcyclohexylamines. Dokl. AN SSSR 136 no.6:1357-1359 F '61. (MIRA 14:3)

1. Nauchno-issledovatel'skiy institut organicheskikh poluproduktov i krasiteley im K. Ye. Voroshilova. Predstavleno akademikom B. A. Kazanskim.

(Cyclohexylamine)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

ERLIKH, R.B.; DOBROVOL'SKIY, S.V.; KOROLEV, A.I.

Catalytic methylation of cyclohexanone with dimethylamine. Zhur. VKHO 10 no.2:233-234 '65. (MIRA 18:6)

1. Nauchno-issledovatel'skiy institut organicheskikh poluproduktov i krasiteley.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

DOBROVOL'SKIY, T., slesar'.

Rapid filling of concrete mixers. Stroitel' no.5:19 My '59.
(MIRA 12:8)
(Mixing machinery)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

DOBROVOL'SKIY, V.

26385 Pruzhinka. (O stalevare - stakhanovtse A. Shashkove kuznetskiy metallurg. Kombinat im. Stalina. Ockerk). Smena, 1949, No. 15, s. 5-6.

SO: LETOPIS' NO. 35, 1949

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

DOBROVOL'SKIY, V., inzhener.

Signaling telephone unit. Stroitel' 2 no.11:21 N '56. (MLRA 10:1)
(Telephone—Apparatus and supplies)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

DOBROVOL'SKIY, V.

Making big enlargements. Sov.foto. 19 no.1:59 Ja '59.(MIRA 12:3)
(Photography--Enlarging)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

DOBROVOL'SKIY, V., khudozhnik

Blast furnace plant in the classroom. IUn.tekh. 5 no.9:3-4 S '60. (MIRA 13:10)

(Metallurgical plants--Models)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

SERYAKOV, Ivan Maksimovich. Prinimali uchastiye: BEDAREV, G.; VETSHUMB, N.; DOBROVOL'SKIY, V.; KAPLAN, S.; KOMZA, G.; KOROLEV, L.; KUZGINOV, K.; PETROV, V.; SUMAKOV, M.; SMOLYANINOV, N.; USHAKOV, I.; USHAKOV, G.; ZAYCHIK, M.I., prof., doktor tekhn.nauk, nauchnyy red.; KOLOMIYTSEVA, O.I., red.; ROZEN, E.A., tekhn.red.

[The story of the tractor] Povest' o traktore. Moskva, Izd-vo "Sovetskaia Rossiia," 1960. 318 p. (MIRA 13:12)
(Tractors)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

DOBROVOL'SKIY, V.; CHAVDAROV, D.; SHOR, Ya.

Readers' letters. Avt.transp. 41 no.11:50-51 N '63.
(MIRA 16:12)

1. Chleny Soveta veteranov avtomobil'nogo transporta Leningrada.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

DOBROVOL'SKIY, V.A.

Participation of the first directors of the Pulkovo Observatory in the organization of the Kiev Observatory. Ist.-astron.issl. no.4:481-490 '58. (MIRA 11:10)
(Kiev--Astronomical observatories)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

DOBROVOL'SKIY, VIKTOR AFANAS'YEVICH

Detali mashin; teoriia, konstruktsiia i raschety. Izd. 3., perer. i dopoln. Dop. kachestve uchebn. posobiia dlia mashinostroit. vtuzov. Moskva, Mashgiz, 1945. 814 p. illus.

Includes bibliographies.

Machine elements; theory, design and calculations.

NIC DLC: TJ170.D6 1945

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

DOBROVOL'SKIY, VIKTOR AFANAS'EVICH

Zadachi po detailiam mashin. Izd. 3., ispr. i dopoln. Utverzhdeno v kachestve uchebn. posobiia dlia vyssh. tekhnich. uchebn. zavedenii. Moskva, Mashgiz, 1946. 537 illus.

Problems in machine elements.

CtY

DIC: TJ159.D6 1946

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

DOBROVOL'SKIY, V.A.
25618

Po Povodu Metodiki Prepodavaniya Kursa ≪Detali Mashin≫ [O Stat'e M.S. Komarova ≪Nekotoryye Voprosy Metodiki Prepodavaniya Kursa ≪Detali Mashin≫ V Zhurn. ≪Vestnik Vyssh. Shkoly≫, 1948, No. 6. S. Primech. Red.] Vestnik Vyssh. Shkoly, 1948, No. 6, s. 20-21

SO: LETOPIS NO. 30, 1948

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

DOBROVOL'SKIY, VIKTOR AFANAS'EVICH

Raschety detalei mashin; primery s podrobnymi resheniiami. Izd. 6. Dop v kachestve uchebn. posobiia dlia tekhn. vuzov USSR. Kiev, Gos. izd-vo tekhn. lit-ry Ukrainy, 1950. 484 p. diagrs.

Bibliographical references included in preface.

Calculations of machine elements; examples with detailed solutions.

DLC: TJ151.D67 1950

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

DOBROVOL'SKIY, V. A.

The Committee on Stalin Prizes (of the Council of Ministers USSR) in the fields of science and inventions announces that the following scientific works, popular scientific books, and textbooks have been submitted for competition for Stalin Prizes for the years 1952 and 1953. (Sovetskaya Kultura, Moscow, No. 22-40, 20 Feb - 3 Apr 1954)

Name	Title of Work	Nominated by
Dobrovol'skiy, V. A.	"Machine Parts" (student manual, 6th edition)	Odessa Polytechnic Institute (8)

SO: W-30604, 7 July 1954

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

DOBROVOL'SKIY, V.A.

PHASE I BOOK EXPLOITATION 821

Dobrovol'skiy, V.A., Doctor of Technical Sciences, Honored Worker in Science and Technology

Detali mashin (Machine Parts) 7th ed., rev. and enl. Kiyev, Gostekhizdat UKrSSR 1954. 599 p. 100,000 copies printed.

Ed. Chumachenko, T.; Tech. Ed.: Vuyek, M.

PURPOSE This book is approved as a textbook for technical vuzes by the Ministry of Culture of the UKrSSR, and may be used by engineering students and machine designers.

COVERAGE: The book deals with the theory and practice of machine parts design. In the introductory part the author gives a concise historical review of the development of Soviet machine element design. No personalities are mentioned. There are 79 Soviet references.

Card 1/17

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

DOBROVOL'SKIY, V.A.

ANDOZHSKIY, Vsevolod Dmitriyevich; KETOV, Kh.F., professor, retsenzent; DOBROVOL'SKIY, V.A., professor, doktor tekhnicheskikh nauk, zasluzhennyy deyatel' nauki i tekhniki, retsenzent; PYZH, O.A., inzhener, laureat Stalinskoy premii, retsenzent; SHAVLYUGA, N.I., kandidat tekhnicheskikh nauk, dotsent, redaktor; SOKOLOVA, L.V., tekhnicheskiy redaktor.

[Calculations for gear drives] Raschet zubchatykh peredach. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1955. 266 p.
(Gearing) (MLRA 8:12)

Prof., Dr. Tech. Sci., Honored Scientist & Engineer, Revieuwer

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

DOBROVOL'SKIY, Viktor Afanas'yevich; ERLIKH, Lazar' Borisovich; SIVAY, A.V., dotsent, retsenzent; GOKUN, V.B., kandidat tekhnicheskikh nauk, redaktor; LEUTA, V.I., inzhener, redaktor izdatel'stva; HUDENSKIY, Ya.V., tekhnicheskiy redaktor

[Basic principles in the design of modern machinery] Osnovnye printsipy konstruirovaniia sovremennykh mashin. Kiev, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1956. 107 p. (MLRA 9:11)
(Machinery--Design)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

DOBROVOL'SKIY, Viktor Afanas'yevich, doktor tekhnicheskikh nauk, zasluzhennyy deyatel' nauki i tekhniki; ZABLONSKIY, Konstantin Ivanovich; MAK, Solomon L'vovich; RADCHIK, Aleksandr Semenovich; ERLIKH, Lazar' Borisovich; PINEGIN, S.V., doktor tekhnicheskikh nauk, professor, retsenzent; ACHERKAN, N.S., doktor tekhnicheskikh nauk, professor, otvetstvennyy redaktor; ZALOGIN, N.S., redaktor izdatel'stva; RUDENSKIY, Ya.V., tekhnicheskiy redaktor

[Machine parts] Detali mashin. Kiev, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1956. 618 p. (MIRA 10:2)

1. Odesskiy politekhnicheskiy institut (for Dobrovol'skiy, Zablonskiy, Mak, Radchik, Erlikh)
(Machinery--Design)

Odessa Polytechnical Inst.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

SOV/124-57-4-3836

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 4, p 4 (USSR)

AUTHOR: Dobrovol'skiy, V.A.

TITLE: Professors N. Ye. Zhukovskiy and V. P. Yermakov as Critics of Engineering Dissertations (Professora N. Ye. Zhukovskiy i V. P. Yermakov kak opponenty inzhenernykh dissertatsiy)

PERIODICAL: Izv. Kiyevsk. politekhn. in-ta, 1956, Vol 19, pp 408-418

ABSTRACT: Bibliographic entry

Card 1/1

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

DOBROVOL'SKIY, Viktor Afanas'yevich, zasluzhennyy deyatel' nauki i tekhniki, doktor tekhnicheskikh nauk, professor; ZABLONSKIY, Konstantin Ivanovich, MAK, Solomon L'vovich; RADCHIK, Aleksandr Semenovich; ERLIKH, Lazar' Borisovich; PINEGIN, S.V., doktor tekhnicheskikh nauk, professor, retsenzent; ACHERKAN, N.S., doktor tekhnicheskikh nauk, professor, otvetstvennyy redaktor; ZALOGIN, N.S., redaktor izdatel'stva; RUDENSKIY, Ya.V., tekhnicheskiy redaktor

[Machine parts] Detali mashin. Izd. 2-oe, ispr. Kiev, Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1957. 618 p. (MLRA 10:8)
(Machinery--Design)

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25(2) PHASE I BOOK EXPLOITATION SOV/2729

Dobrovol'skiy, Viktor Afanas'yevich, Konstantin Ivanovich Zablonskiy, Solomon L'vovich Mak, Aleksandr Semenovich Radchik, and Lazar' Borisovich Erlikh

Detali mashin (Machine Elements) 3rd ed., rev. and enl. Kiyev, Mashgiz, 1959. 581 p. 100,000 copies printed.

Reviewer: S.V. Pinegin, Doctor of Technical Sciences, Professor; Resp. Ed.: N. S. Acherkan, Doctor of Technical Sciences, Professor; Ed.: N.S. Zalogin; Chief Ed. (Southern Division, Mashgiz): V.K. Serdyuk, Engineer.

PURPOSE: This textbook is intended for students of institutions of higher technical education specializing in machinery construction and mechanical engineering.

COVERAGE: This is a textbook for the course, Machine Elements. It is a third edition, revised and enlarged. Design problems and basic theory are emphasized. Machine parts dealt with include joints, transmissions, axles, shafts, bearings, couplings, clutches, springs, and housings. Recently developed designs of machine parts and new methods of calculation have been added. Chapters dealing with material offered in other courses have been abridged or deleted. The authors thank the responsible editor for

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suggestions. References follow each chapter.

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LEVINSON, Vladimir Naumovich; DOBROVOL'SKIY, V.A., prof., doktor tekhn. nauk, zasluzhennyy deyatel' nauki i tekhniki, retsenzent; ZAPOROZHCHENKO, V.A., inzh., red.; FURER, P.Ya., red.izd-va

[Continuous conveying devices] Transportnye ustroistva nepreryvnogo deistviia. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1960. 359 p. (MIRA 13:5)
(Conveying machinery)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

TKACHENKO, Viktor Andreyevich; DOBROVOL'SKIY, V.A., prof., doktor tekhn. nauk, retsenzent; D'YACHENKO, S.K., dots., kand. tekhn. nauk, retsenzent; KOSTYUK, D.I., kand. tekhn. nauk, otv. red.; TRET'YAKOVA, A.N., red.; KOGAN, Ye.M., tekhn. red.

[Designing multisatellite planetary transmissions] Proektirovanie mnogosatellitnykh planetarnykh peredach. Khar'kov, Izd-vo Khar'kovskogo gos.univ. im. A.M.Gor'kogo, 1961. 181 p. (MIRA 15:8)
(Gearing)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

DOBROVOL'SKIY, Viktor Afanas'yevich. Prinimali uchastiye: RAYKO, M.V.; DOBROVOL'SKAYA, G.V.; KHEYFETS, L.S., red.; VASILENKO, M.A., red. izd-va; GORKAVENKO, L.I., tekhn. red.

[Calculation of machine parts; examples with detailed solutions] Raschet detalei mashin; primery s podrobnymi resheniiami. Izd.7. Kiev, Gos. izd-vo tekhn. lit-ry USSR, 1961. 389 p. (MIRA 14:11)
(Machinery—Design and construction)

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DOBROVOL'SKIY, Viktor Afanas'yevich; RAYKO, M.V., red.; KHEYFETS, L.S., red.; VASILENKO, M.A., red.izd-va; GORKAVENKO, L.I., tekhn.red.

[Designing machine parts; examples with detailed solutions] Raschet detalei mashin; primery s podrobnymi resheniiami. Izd.8, Kiev, Gos.izd-vo tekhn.lit-ry USSR, 1961. 389 p. (MIRA 14:7)

(Machinery—Design)

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IVANOV, Mikhail Nikolayevich, prof., doktor tekhn.nauk; KOMAROV, Mikhail Stepanovich, prof., doktor tekhn.nauk; DOBROVOL'SKIY, V.A., prof., retsenzent; KURENDASH, R.S., dotsent, kand.tekhn. nauk, otv.red.; KOTLYAROV, Yu.L., red.; MALYAVKO, A.V., tekhn.red.

[Machine parts and hoisting and conveying machinery] Detali mashin i pod"emno-transportnye mashiny. L'vov, Izd-vo L'vovskogo univ., 1961. 587 p. (MIRA 15:2)

1. Moskovskoye vysshoye tekhnicheskoye uchilishche im. Baumana (for Ivanov). 2. L'vovskiy politekhnicheskiy institut (for Komarov). 3. Odesskiy politekhnicheskiy institut (for Dobrovol'skiy).
(Hoisting machinery) (Conveying machinery)

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DOBROVOL'SKIY, Viktor Afanas'yevich; ZABLONSKIY, Konstantin Ivanovich; MAK, Solomon L'vovich; RADCHIK, Aleksandr Semenovich; ERLIKH, Lazar' Borisovich; PYATNITSKIY, A.A., prof., retsenzent; ACHERKAN, N.S., doktor tekhn. nauk, prof., otv. red.; BYKOVSKIY, A.I., inzh., red.; GORNOSTAYPOL'SKAYA, M.S., tekhn. red.

[Machine parts] Detali mashin. Izd. 6., dop. Moskav, Mashgiz, 1962. 601 p. (MIRA 16:5)
(Machinery)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

DOBROVOL'SKIY, V. A.

Call Nr: AF 1108825

Transactions of the Third All-union Mathematical Congress (Cont.) Moscow, Jun-Jul '56, Trudy '56, V. 1, Sect. Rpts., Izdatel'stvo AN SSSR, Moscow, 1956, 237 pp.

Belozerov, S. Ye. (Rostov-na-Donu). Contribution of XIX Century Russian Mathematicians to the Theory of Functions of a Complex Variable. 229-230

Mention is made of Ostrogradskiy, M. V., Chebyshev, P. L., Lobachevskiy, N. I., Kovalevskaya, S. V., Vyshnegradskiy, I. A., Karastelev, K., Vashchenko-Zakharchenko, M., Sokhotskiy, Yu. V., Pokrovskiy, P. M., Savich, S. Ye., Davydov, Bugayev, Zhukovskiy, Chaplygine, Bukreyev, Yermakov, Psheborskiy, Maksimovich, Temchenko, Gerts, Sonin, Anisimov, Tikhomandritskiy and Imshenetskiy.

Depman, I. Ya. (Leningrad) and Molodshiy, V. N. (Moscow). The First Mathematical Society in Russia. 230

Mention is made of Murav'yev, N. Ye., Murav'yev, N. N. and Murav'yev, M. N.

Dobrovol'skiy, V. A. (Kiyev). The activity of the Kiyev Mathematical School in 1908-1917. 230-231

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

DOBROVOL'SKIY, V. A.

Dobrovol'skiy, V. A. -- "The Development of Mathematics in Kiev University from Its Foundation to 1917." Acad Sci UssR. Inst of the History of Natural Sciences and Technology. Moscow, 1956. (Disseration for the Degree of Candidate in Physicomathematical Sciences).

So: Knizhnaya Letopis', No. 11, 1956, pp 103-114

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Dobrovol'skiy V.A.

3-6-25/29

AUTHOR: Dobrovol'skiy, V.A., Candidate of Physico-Mathematical Sciences

TITLE: Outstanding Pedagogues of the Country's Higher Schools (Vydayushchiyesya pedagogi otechestvennoy vysshey shkoly)

PERIODICAL: Vestnik Vysshey Shkoly, 1957, # 6, pp 82-86 (USSR)

ABSTRACT: The article represents a biography of Vasiliy Petrovich Yermakov, who for more than 50 years, devoted himself to pedagogic and scientific work in the field of mathematics. He was born in 1845 and died in 1922. In 1877, he obtained the degree of Doctor of Physico-Mathematical Sciences for his work "Integration of differential equations of mechanics" and was soon afterwards appointed professor. At Kiyev University (Kiyevskiy universitet) he taught ordinary differential equations and differential equations in partial derivatives, the theory of probability, the theory of numbers, differential and variational calculus, vector algebra, analytical geometry, etc. In March 1899 V. P. Yermakov was awarded the title of Honorary Professor. His contemporaries and students (the most prominent being

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Outstanding Pedagogues of the Country(s Higher School 3-6-25/29

B. Ya. Bukreyev, at present professor of mathematics at the Kiyev University) repeatedly emphasized that in his progressive views and tendency to improve instruction he was outstanding among the other professors. He wrote and published almost 200 works, among them quite a number of monographs. There are 17 references of which 15 are Russian, one Ukrainian and one French.

ASSOCIATION: Kiyev Polytechnic Institute (Kiyevskiy politekhnicheskiy institut)

AVAILABLE: Library of Congress

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

DOBROVOL'SKIY, V.A.

DOBROVOL'SKIY, V.O.

Seminar on the history of mathematics. Visnyk AN URSR 28 no.9:65-68 S '57. (MIRA 11:1)
(Ukraine--Mathematics)

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DOBROVOL'SKIY, V.A.

AUTHOR: DOBROVOL'SKIY, V.A. 41-1-13/15

TITLE: Seminar on the History of Mathematical Sciences at the Institute for Mathematics of the Academy of Sciences of the UkrSSR (Seminar po istorii matematicheskikh nauk pri Institute matematiki Akademii Nauk UkrSSR.)

PERIODICAL: Ukrainskiy Matematicheskiy Zhurnal,1958,Vol.10,Nr 1,pp. 103-104 (USSR)

ABSTRACT: Report on the activity of the Seminar which was founded in the beginning of 1956 and at present has about 30 members.

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1. Mathematics-Seminar

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DOBROVOL'SKIY, V.A. [Dobrovol's'kyi, V.O.]

D.O. Grave writes about Euler's priority with respect to one problem in analysis. Ist.-mat. zbir. 1:105-107 '59. (MIRA 14:2)
(Functional analysis)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

SIMONOV, N.I. (Kiyev); DOBROVOL'SKIY, V.A. (Kiyev); PUTYATA, T.V. (Kiyev)

Work of a meeting on the history of mathematics at the Institute of Mathematics of the Academy of Sciences of the Ukrainian S.S.R. Reviewed by V.A. Dobrovol'skii, T.V. Putiata, N.I. Simonov. Vop.ist.est.i tekh. no.9:189-191 '60. (MIRA 13:7)

(Mathematics)

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DOBROVOL'SKIY, V.O. [Dobrovol'skyi, V.O.] (Kiyev)

Algebraic themes in the work of Kiev mathematicians; from the history of mathematics at Kiev University until 1917. Ist.-mat.-zbir. 2:57-67 '61. (MIRA 15:4)

(Kiev--Algebra)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

CHEBOTAREV, N.G.; DOBROVOL'SKIY, V.A.

Applicability of the theory of ideals to algebra. Ist. mat. issl. no.14:539-550 '61. (MIRA 16:10)

(Rings (Algebra))

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DOBROVOL'SKIY, V.A.[Dobrovol'skyi, V.O.]; KOTEK, V.V.

Works on the history of mathematics published in the Ukraine in the period 1850-1960. Ist.-mat. zbir. 4:10-36 '63. (MIRA 17:3)

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DOBROVOL'SKIY, V.A. [Dobrovol's'kyi, V.O.]

V.P.Ermakov's criterion of the convergence of series and its historical evolution. Ist.-mat. zbir. 4:37-41 '63.
(MIRA 17:3)

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DOBROVOL'SKIY, V.O. [Dobrovol's'kyi, V.O.], zasluzhennyy deyatel' nauki, prof.

Useful devices. Nauka i zhyttia 10 no.1:47 Ja '60. (MIRA 13:6)

1. Zaveduyushchiy kafedroy detaley mashin Odesskogo politekhnicheskogo instituta.
(Railroads—Electric equipment)

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L 64772-65 EWT(m)/EWG(m)/EWP(b)/EWP(t) IJP(c) RDW/JD

ACCESSION NR: AP5015442 UR/0185/65/010/006[illegible]

AUTHORS: Karal'nyk, S.M. (Karal'nik, S.M.); Nesen[illegible] Dobrovol's'kyy, V.D. (Dobrovol'skiy, V.D.

TITLE: X-ray spectral study of various modifications of sel[illegible]

SOURCE: Ukrayins'kyy fizychnyy zhurnal, v. 10, no. 6, 1965, 668-671

TOPIC TAGS: selenium, x ray absorption, x ray spectroscopy, selenium compound, crystal structure

ABSTRACT: The K edge of selenium was observed with the fourth order reflection from NaCl. The dispersion was 4.5 eV/mm. [illegible] intensity curves were obtained for each sample and [illegible] of the samples with the aid of powder cameras and [illegible] indicated that [illegible] crystalline state. Hexagonal, monoclinic, vitreous amorphous and red amorphous selenium were investigated. The absorption of x-rays was studied by introducing a number of thin pieces of

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ACCESSION NR: AP5015442

paper covered with a thin layer of the investigated modification into the beam. The hexagonal sample served as the stand[illegible] were counted at each point [illegible] incide within the error of 1.5--2 eV. The K edge of [illegible] phous selenium was shifted 4.5 eV to the long-wave[illegible] [illegible] standard. In [illegible] edge is shifted by [illegible] eV to the short-wavelength [illegible] of selenium dioxide is shifted 4.5 eV to the short-wavelength [illegible] The absence of a shift in the two crystalline modifications [illegible] that the position structures of the atoms in these [illegible] not differ appreciably. The shift in the [illegible] [illegible] the atoms of the two [illegible] have the same electron charge distribution [illegible] the valence orbitals is similar to that [illegible] this indicates that in the oxide the electrons are [illegible]

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ACCESSION NR: AP5015442

ferred to the oxygen atom but, like in the amorphous selen[illegible] pulled away from the selenium atom. It can also not [illegible] that in the [illegible] amorphous selenium the atoms are [illegible] which can be interpreted to indicate an increase in [illegible] bonding. "We express our gratitude to N. Ya. Karkhanina, for advice on problems concerning the properties of selenium and [illegible] for obtaining its various modifications."

ASSOCIATION: Kiyivs'kiy derzhuniversytet im. T. G. Shevchenka [Kiyevskiy gosudarstvennyy universitet im. T. G. Shevchenko (Kiyev State University)]

SUBMITTED: 05Aug64 ENCL: 00 SUB CODE: [illegible]

NR REF SOV: 006 OTHER: 000

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

BOYEV, Nikolay Naumovich; DOBROVOL'SKIY, Vasiliy Kos'mich; S"EDIN, Georgiy Ivanovich; PERMYAKOV, B.M., red.; POLUNICHEV, I.A., red. izd-va; BACHURINA, A.M., tekhn. red.

[Forest management manual for loggers] Lesokhoziaistvennyi spravochnik dlia lesozagotovitelia. Moskva, Goslesbumizdat, 1958. 180 p.
(Lumbering) (Forests and forestry) (MIRA 11:10)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6"

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DOBROVOL'SKIY, Vasiliy Kos'mich

[Siberian pine forests in the U.S.S.R. and their utilization] Kedrovye lesa SSSR i ikh ispol'zovanie. Moskva, Lesnaia promyshlennost', 1964. 184 p. (MIRA 17:10)

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AKULOVA, R.F., prof.; ANTELAVA, N.V., prof.; AR'YEV, T.Ya., prof.; BAIROV, G.A., prof.; VELIKORETSKIY, A.N., prof.; GABAY, A.V., prof. [deceased]; GILORYBOV, G.Ye., prof.; DOBROVOL'SKIY, V.K., prof.; DOLINA, O.A., kand. med. nauk; ZATSEPIN, T.S., prof.; KIRICHINSKIY, A.R., prof.; KOZLOVA, A.V., prof.; KOTOV, A.P., prof.; KRAKOVSKIY, N.I., prof.; KUZIN, M.I., prof.; L'VOV, A.N., prof. [deceased]; MITYUNIN, N.K., kand. med. nauk; MTVARELIDZE, Sh.I., prof., [deceased]; NOVACHENKO, N.P., prof., zasl. deyatel' nauki USSR; OSIPOV, B.K., prof.; PIKIN, K.I., prof.; POSTNIKOV, B.N., prof.; RAKOV, A.I., prof.; STRUCHKOV, V.I., zasl. deyatel' nauki RSFSR, prof.; FAYERMAN, I.L., prof. [deceased]; FILATOV, A.N., prof.; SHMELEV, I.V., prof. [deceased]; PETROVSKIY, B.V., zasl. deyatel' nauki RSFSR, prof., otv. red.

[Multivolume manual on surgery] Mnogotomnoe rukovodstvo po khirurgii. Moskva, Meditsina. Vol.2. 1964. 771 p. (MIRA 18:1)

1. Deystvitel'nyy chlen AMN SSSR (for Antelava, Petrovskiy).
2. Chlen-korrespondent AMN SSSR (for Bairov, Novachenko, Struchkov, Filatov).

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DOBROVOL'SKIY, V.K., polkovnik med. sluzhby, prof.

Prevention of athletic injuries. Voen.med.zhur. no.3:10-15 Mr '57.
(ATHLETICS, wounds and injuries, prev. (Rus)) (MIRA 11:3)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

DOBROVOL'SKIY, Viktor Konstantinovich, prof.; LEBEDEVA, V.S., kand.med. nauk, starshiy nauchnyy sotrudnik; UL'RIKH, Ye.S., kand.biolog. nauk, starshiy nauchnyy sotrudnik; YAGUNOV, S.A., prof., doktor med.nauk [deceased]; STARTSEVA, L.I., kand.med.nauk, starshiy nauchnyy sotrudnik; LEKHTMAN, Ya.B., red.; KHARASH, G.A., tekhn.red.

[Therapeutic physical culture] Lechebnaia fizicheskaia kul'tura. Leningrad, Gos.izd-vo med.lit-ry Medgiz, Leningr.otd-nie, 1960. 349 p. (MIRA 13:7)

1. Chlen-korrespondent Akademii meditsinskikh nauk (for Yagunov).
(EXERCISE THERAPY)

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DOBROVOL'SKIY, Viktor Konstantinovich, doktor med. nauk; STAROSTENKOVA, M.M., red.; NAZAROVA, A.S., tekhn. red.

[Physical education and health] Fizkul'tura i zdorov'e. Moskva, Izd-vo "Znanie," 1961. 31 p. (Vsesoiuznoe obshchestvo po rasprostraneniiu politicheskikh i nauchnykh znanii. Ser.8, Biologiia i meditsina, no.14) (MIRA 14:8)
(PHYSICAL EDUCATION AND TRAINING)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

DOBROVOL'SKIY, V.K., prof.

Movement and rest. Zdorov'e 7 no.1:6-7 Ja '61. (MIRA 13:12)
(MOVEMENT (PHYSIOLOGY)) (REST)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410630001-6

DOBROVOL'SKIY, V.K., prof.; SMIRNOV,K.M., prof.

On the 40th anniversary of O.A. Sheinberg's medical and scientific activities. Vop. kur., fizioter. i lech. fiz. kul't. 27 no.4:377 Jl-Ag'62 (MIRA 16:11)

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DOBROVOL'SKIY, Viktor Konstantinovich, prof.; EGOLINSKIY, Ya.A., prof.; LEBEDEVA, V.S., dots.; BUKALOV, M.M., vrach; LEKHTMAN, Ya.B., red.; LEBEDEVA, Z.V., tekhn. red.

[Medical and pedagogical control of physical education in boarding schools] Vrashebno-pedagogicheskiĭ kontrol' za fizicheskim vospitaniem v shkolakh-internatakh; posobie dlia vrachei. Leningrad, Medgiz, 1963. 183 p. (MIRA 16:7)
(PHYSICAL EDUCATION FOR CHILDREN)

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16.7300

AUTHOR: Dobrovol'skiy, V. L. (Moscow)

TITLE: Problem of Plane Deformation of an Ideally Plastic Body in Complex Variables

PERIODICAL: Prikladnaya matematika i mekhanika, 1960, Vol. 24, No. 2, pp. 367-369

TEXT: The author gives a general expression in complex variables z, $\bar{z}$ for the stress function. The expression depends on an arbitrary real function $\theta = \theta(z, \bar{z})$. For θ = const one obtains the homogeneous stress field; for $\theta = -\vartheta + \alpha$ (α = const, $z = re^{i\vartheta}$) one obtains an axialsymmetric field or the stress distribution in a wedge gib; $\theta = \frac{1}{2}\arcsin(2\cdot\bar{z}/l)$ corresponds to the stress distribution in a strip which is compressed by two rough plates. The function $\theta = -\vartheta + \frac{1}{2}\arcsin(1-\frac{c}{rz})$ leads to a new particular solution of the equations of equilibrium

$$\frac{\partial \tau_{xy}}{\partial y} = 0 \,, \qquad \frac{\partial \tau_{xy}}{\partial x} + \frac{\partial \sigma_y}{\partial y} = 0 \tag{1.1}$$

for Mises conditions. In the elastic-plastic problem the introduction of the complex variables allows to discover the connection between the elastic and plastic stress functions.

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Problem of Plane Deformation of an Ideally Plastic Body in Complex Variables

There are 4 Soviet references.

SUBMITTED: December 4, 1959

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AUTHOR: Dobrovol'skiy, V.L. (Moscow)

TITLE: On the Application of Complex Variables for a Plane Plastic Deformation

PERIODICAL: Prikladnaya matematika i mekhanika, 1960, Vol.24, No.5, pp.955-958

TEXT: The author considers a homogeneous isotropic material in a plastic state. There hold the equilibrium conditions

$$(1.1)\quad \frac{\partial \sigma_x}{\partial x} + \frac{\partial \tau_{xy}}{\partial y} = 0, \qquad \frac{\partial \tau_{xy}}{\partial x} + \frac{\partial \sigma_y}{\partial y} = 0$$

and the flow conditions

$$(1.2)\quad (\sigma_x - \sigma_y)^2 + 4\tau_{xy}^2 = 4k^2,$$

where k is the yield value for a drift. Let F be the tension function:

$$(1.3)\quad \sigma_x = \frac{k}{2}\frac{\partial^2 F}{\partial y^2}, \qquad \sigma_y = \frac{k}{2}\frac{\partial^2 F}{\partial x^2}, \qquad \tau_{xy} = -\frac{k}{2}\frac{\partial^2 F}{\partial x \partial y}.$$

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On the Application of Complex Variables for a Plane Plastic Deformation

It must be determined from (1.2) or in complex variables (z=x+iy) from

$$\frac{\partial^2 F}{\partial z^2}\,\frac{\partial^2 F}{\partial \bar{z}^2} = 1. \tag{1.4}$$

In order that the solution physically has a sense, F must be real, i.e.

$$F(z,\bar{z}) = \overline{F(z,\bar{z})}\ . \tag{1.5}$$

(1.4) can be written in the form

$$\frac{\partial^2 F}{\partial z^2} = \exp\left[i\theta\right], \tag{1.6}$$

where $\theta = \theta(z,\bar{z})$ is a real function. The integration of (1.6) yields

$$F(z,\bar{z}) = \int_{z_0}^{z} d\eta \int_{\eta_0}^{\eta} \exp\left[i\theta(\zeta,\bar{z})\right] d\zeta + z\,\overline{\varphi(z)} + \overline{\gamma(z)}\ . \tag{1.7}$$

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